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A giant paraesophageal hiatal hernia causing vocal fold paralysis

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1. Introduction

We report the case of a patient who presented with severe dysphonia as a consequence of a giant hiatal hernia that was paralysing the patient's vocal folds.

2. Case report

A 59 year old man was referred, by the digestive service, for assessment in view of a three-month history of dysphonia. In laryngeal videoendoscopic examination, marked edema of the arytenoid cartilages, especially of the left arytenoids, was observed. This edema and the reduction of the laryngeal vestibule during phonation prevented proper evaluation of the vocal cords. To reduce the edema, corticosteroids were administered by intramuscular injection. A week later the edema was found to have abated significantly, and videoendoscopy indicated paralysis of the left vocal cord in an intermediate position (Fig. 1) and signs suggestive of pharyngolaryngeal disease due to gastropharyngeal reflux. Acoustic analysis revealed that acoustic and aerodynamic properties of the larynx were severely altered. The patient did not have dysphagia for liquid or solid foods. As part of the protocol to assess laryngeal paralysis a chest TC scan was performed. The existence of a giant paraesophageal hiatal hernia was observed that was related to recurrent laryngeal nerve damage (Figs. 2 and 3). One month after diagnosis, we proceeded with intracordal injection of hydroxyapatite gel, which significantly improved the quality of the voice and all acoustic, aerodynamic and perceptual parameters. One month after the intracordal injection, the patient underwent a Nissen fundoplication for hernia correction.

3. Discussion

Textbooks and treatises on otolaryngology do not cover the possibility that a giant hiatal or paraesophageal hernia can cause vocal cord paralysis by compression of one or both inferior laryngeal nerves or of recurrent laryngeal nerves. In the scientific literature, hardly any cases have been described in which a hiatal or a paraesophageal hernia has been associated with laryngeal paralysis. Lee and Huang (2015) reported a case of bilateral paralysis that first presented with a dyspnea crisis [1]; more recently, Casasayas et al. (2021) reported a case of unilateral paralysis in a patient who presented dysphonia and dysphagia [2].

Treatment, such as, intracordal injection, thyroplasty, cordotomy and tracheostomy, for these cases of vocal cord paralysis will depend on factors specific to each patient. The underlying hiatal hernia requires surgical treatment, and any other disorders or symptoms associated with the hiatal hernia must also be managed.

4. Conclusion

We propose that hiatal or giant paraesophageal hernia be regarded as a possible cause of unilateral or bilateral vocal cord paralysis and be included in the differential diagnosis for patients with laryngeal paralysis.

Ethics Committee

No ethical objections were observed by the Ethics Committee of the University of Navarra.

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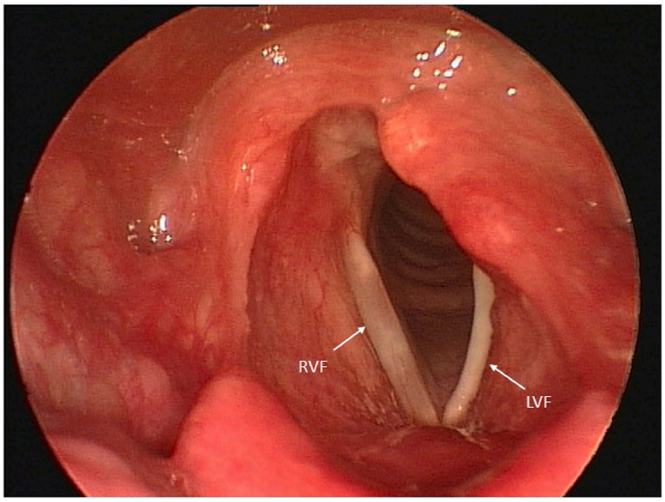

Fig. 1. Laryngoscopy showing left vocal cord paralysis (LVF).

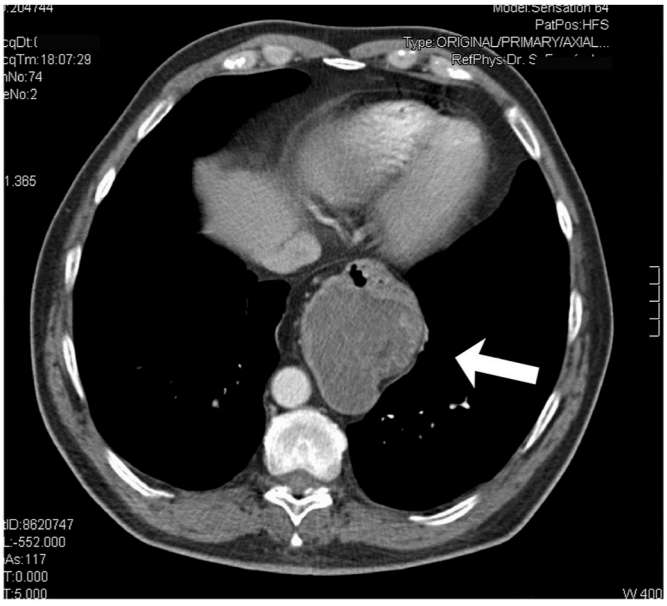

Fig. 2. CT showing the paraesophageal hernia, axial section.

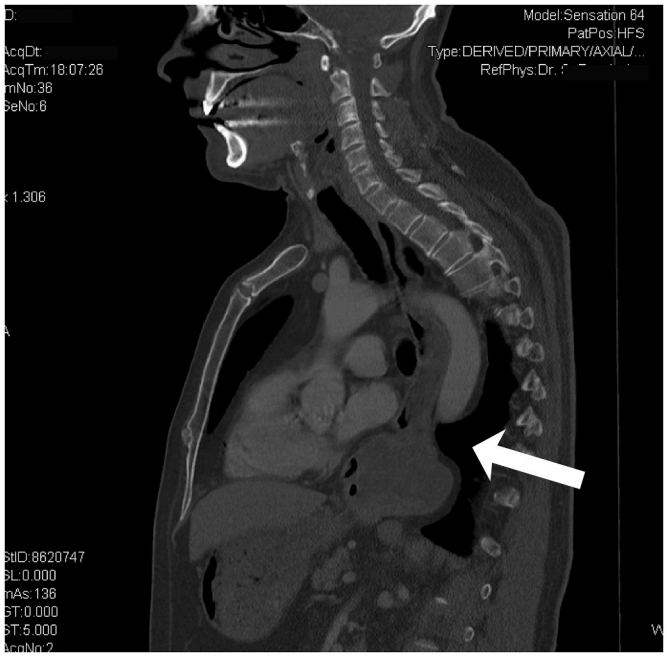

Fig. 3. CT showing the paraesophageal hernia, sagittal section.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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